

10<sup>th</sup> International conference on

# OPHTHALMOLOGY AND OPTOMETRY

August 10-11, 2017 Beijing, China

## Combined anterior stromal puncture and amniotic membrane transplantation for bullous keratopathy

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**Objective:** To evaluate the therapeutic efficacy and safety of combined Anterior Stromal Puncture (ASP) and Amniotic Membrane Transplantation (AMT) in the management of symptomatic Bullous Keratopathy (BK).

**Methods:** This prospective, non-comparative trial included 34 eyes (34 patients) suffering from intractably painful bullous keratopathy which is unresponsive to conservative measures (medicine, contact lens). After epithelial debridement, all eyes had ASP, followed by AMT with the basement membrane in upward orientation. During a follow-up of 6 months after treatment, pain relief, epiphora reduction, epithelial healing, amniotic membrane retention, bullae recurrence and visual changes were analyzed.

**Results:** 34 patients (34 eyes), 18 men and 16 women, mean age  $62.41 \pm 14.02$ . Pain level decreased sharply at week 1 post-op, decline more remarkably at week 4 and then plateaued to month 3 and month 6. Complete pain relief was achieved in 30 patients (88.2%) after the 6-month follow-up. Bullae were resolved in all but 9 eyes whose bullae were in smaller areas. Post-operative epiphora severity (Munk's scale) was significantly lower than it was pre-operatively. The mean time for complete re-epithelialization was  $6.91 \pm 1.8$  days. Amnion was completely absorbed in 10 eyes (29.4%), partially absorbed in 19 eyes (55.9%) and remained intact in 5 eyes (14.7%). The visual acuities were mostly stable after treatment.

**Conclusions:** ASP combined with AMT can be considered to be an effective and safe alternative in symptomatic BK treatment. It can be helpful for those who are unresponsive to conservative measures and live in places where corneal transplantation is unavailable or unaffordable.

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